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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,008	03/22/2004	Brent R. Jones	1776-031	1188

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EXAMINER	
LIANG, LEONARD S	

ART UNIT	PAPER NUMBER
2853	

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/806,008	JONES ET AL.	
	Examiner	Art Unit	
	Leonard S. Liang	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10,11,14 and 16* is/are rejected.

7)☒ Claim(s) *9,12,13,15,17 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification and Drawings

The amendment to the specification and drawings filed on 07/10/06 are approved.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoisington et al (US Pat 5694156).

Hoisington et al discloses:

- {claim 2} A method of storing and melting solid ink for a solid ink printer (figure 2); coupling a removable housing in which a solid ink block is stored, to at least one printhead (figure 2; column 2, lines 58-61); liquefying with a heater the solid ink block within the housing (column 2, lines 58-61); transferring the liquefied ink to the printhead through a fluid outlet port attached to the housing (figure 2, reference 26); receiving printer operation information from a printer controller external to the housing and storing the printer operation information in an electronic storage device within the housing (figure 2, reference 31)

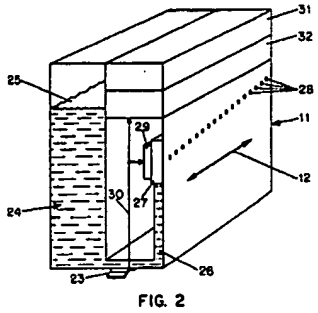

FIG. 2

- {claim 3} A system for supplying solid ink to a solid ink printer (figure 2); a solid ink supply container adapted for use with solid ink printers (figure 2; column 2, lines 58-61); a housing for installation in a solid ink printer, a solid ink block being stored within the housing, the housing being coupled to at least one printhead (figure 2; column 2, lines 58-61); a heater within the housing, the heater liquefying within the housing the solid ink block (column 2, lines 58-61); a fluid outlet port through a wall of the housing, the liquefied ink being transported through the fluid outlet port to the at least one printhead (figure 2, reference 26); an electronic storage device within the housing, the electronic storage device for storing printer operation information transferred by a printer controller external to the ink supply container (figure 2, reference 31); and electrical contacts attached to the housing; the electrical contacts for coupling the electronic storage device to the printer controller to receive printer operation information from the printer controller (figure 4, reference 36, 40)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoisington et al (US Pat 5694156) in view of Suzuki (US Pat 5392065).

Hoisington et al discloses:

- {claim 1} A solid ink supply container adapted for use with solid ink printers (figure 2; column 2, lines 58-61); a housing for installing within a solid ink printer, a solid ink block being stored within the housing, the housing being coupled to at least one printhead (column 2, lines 58-61); a heater within the housing, the heater liquefying the solid ink block within the housing (column 2, lines 58-61); an outlet port adapted to facilitate transfer of the liquefied ink to the at least one printhead coupled to the housing (figure 2, reference 26; column 2, lines 58-61); an ink sensor for determining an amount of ink in the housing (column 1, lines 59-60); at least one electronic storage device within the housing (figure 2, reference 31)
- {claim 5} a method (as applied to claim 2 above); automatically detecting a low level of ink in the housing and generating a low ink level signal by the container and transmitting the low level signal to the printer controller (figure 3, reference 33; column 3, lines 32-42)

- {claim 6} a method (as applied to claim 2 above); automatically detecting a low level of ink in the housing and generating a low ink level signal by the container and transmitting the low level signal to the printer controller (figure 3, reference 33; column 3, lines 32-42); generating a user perceivable indication that ink in the container has reached a low level (column 1, line 20)

Hoisington et al differs from the claimed invention in that it does not disclose:

- {claim 1} electronic storage device being coupled to a container bus within the housing to receive printer operation information from a printer controller for the printer in which the housing is installed; and electrical contacts coupled to the container bus within the housing; the electrical contacts for coupling the printer controller to the container bus so that the printer controller is enabled to send printer operation information to the electronic storage device in the housing
- {claims 5-6} a container bus

Suzuki discloses:

- {claims 1, 5-6} hot melt tank sensor coupled to bus 52, which is coupled to printer controller (figure 2, reference 52)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the bus disclosed by Suzuki into the invention of Hoisington et al. The motivation for the skilled artisan in doing so is to gain the benefit of efficiently transferring data signals between the printer controller and the ink tank.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoisington et al (US Pat 5694156) in view of Brooks et al (US Pat 5489925).

Hoisington et al discloses, with respect to claim 4, a method (as applied to claim 2 above); downloading printer operation information stored in the electronic storage device within the container (figure 4, reference 36, 40).

Hoisington et al differs from the claimed invention in that it does not disclose removing the housing from the printhead.

Brooks et al discloses, with respect to claim 4, and ink reservoir housing that is separated from the print head, thus inducing removal (figure 1, reference 12, 16).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Brooks et al into the invention of Hoisington et al. The motivation for the skilled artisan in doing so is to gain the benefit of being able to easily replace a worn out ink container.

Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoisington et al (US Pat 5694156) in view of Kimura et al (US Pat 6883905).

Hoisington et al discloses:

- {claim 7} a method (as applied to claim 2 above); coupling one solid ink supply container to a printhead to provide liquid ink from the ink supply container (column 2, lines 58-61); automatically detecting a low level of ink in the one solid ink supply container coupled to the printhead (column 3, lines 32-56)

- {claim 16} a system (as applied to claim 3 above); at least one solid ink container being coupled to a printhead (figure 2; column 2, lines 58-61)

Hoisington et al differs from the claimed invention in that it does not disclose:

- {claim 7} providing a plurality of solid ink supply containers; automatically switching from the one solid ink supply container to another one of the solid ink supply container in the plurality in response to detection of a low ink level in the solid ink supply container coupled to the printhead
- {claim 16} a plurality of solid ink supply containers; an ink supply switch adapted to automatically switch from the one solid ink supply container coupled to the printhead to another solid ink supply container in the plurality in response to a low ink level being detected

Kimura et al discloses:

- {claim 7} providing a plurality of solid ink supply containers; automatically switching from the one solid ink supply container to another one of the solid ink supply container in the plurality in response to detection of a low ink level in the solid ink supply container coupled to the printhead (column 2, lines 38-42)
- {claim 16} a plurality of solid ink supply containers; an ink supply switch adapted to automatically switch from the one solid ink supply container coupled to the printhead to another solid ink supply container in the plurality in response to a low ink level being detected (column 2, lines 38-42)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Kimura et al into the invention of Hoisington

et al. The motivation for the skilled artisan in doing so is to gain the benefit of continuing printing without interruption, even when a ink tank runs out of ink.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoisington et al (US Pat 5694156) in view of Kimura et al (US Pat 6883905), as applied to claim 7, and further in view of Rousseau et al (US Pat 6056394).

Hoisington et al, as modified, teaches all limitations of the claimed invention except:

- {claim 8} applying pressure with a spring-biased ram to the solid ink block to move a portion of the solid ink block into contact with the heater for liquefying the solid ink block

Rousseau et al discloses:

- {claim 8} applying pressure with a spring-biased ram to the solid ink block to move a portion of the solid ink block into contact with the heater for liquefying the solid ink block (column 5, lines 11-15)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Rousseau et al into the invention of modified Hoisington et al. The motivation for the skilled artisan in doing so is to gain the benefit of securing the ink block against the heater for maximum melting.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoisington et al (US Pat 5694156) in view of Suzuki (US Pat 5392065), as applied to claim 1 above, and further in view of Brooks et al (US Pat 5489925).

Hoisington et al, as modified, teaches all limitations of the claimed invention except for the following:

- {claim 10} a fluid outlet valve through which liquefied ink is supplied to at least one printhead

Brooks et al discloses, with respect to claim 10, a fluid outlet valve (figure 2, reference 82).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Brooks et al into the invention of modified Hoisington et al. The motivation for the skilled artisan in doing so is to gain the benefit of being able to control the amount of ink that flows to the printhead.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoisington et al (US Pat 5694156) in view of Suzuki (US Pat 5392065), as applied to claim 1 above, and further in view of Rousseau et al (US Pat 6056394).

Hoisington et al, as modified, teaches all limitations of the claimed invention except for the following:

- {claim 11} a spring-biased ram for applying pressure to the solid ink mass to move a portion of the solid ink block to the heater for melting

Rousseau et al discloses, with respect to claim 11, a spring-biased ram for applying pressure to the solid ink mass to move a portion of the solid ink block to the heater for melting (column 5, lines 11-15).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Rousseau et al into the invention of modified Hoisington et al. The motivation for the skilled artisan in doing so is to gain the benefit of securing the ink block against the heater for maximum melting.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoisington et al (US Pat 5694156) in view of Rousseau et al (US Pat 6056394).

Hoisington et al discloses, with respect to claim 14, a system (as applied to claim 3 above).

Hoisington et al differs from the claimed invention in that it does not disclose:

- {claim 14} a spring-biased ram for urging the solid ink block to the heater so that the heater melts a portion of the ink block contacting the heater

Rousseau et al discloses, with respect to claim 14, a spring-biased ram for urging the solid ink block to the heater so that the heater melts a portion of the ink block contacting the heater.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Rousseau et al into the invention of Hoisington et al. The motivation for the skilled artisan in doing so is to gain the benefit of securing the ink block against the heater for maximum melting.

Allowable Subject Matter

Claims 9, 12-13, 15, and 17-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The claims disclose, "a rheostat coupled to the spring-biased ram, said rheostat detecting a level of ink in the housing," which was not found, taught, or disclosed in the prior arts.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hoisington et al (US Pat 5502467) discloses an ink jet printhead with ink viscosity control.

Nagata et al (US Pat 5881646) discloses a method and apparatus for image recording by emitting evaporated ink onto a recording medium.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S. Liang whose telephone number is (571) 272-2148. The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

10/15/06
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STEPHEN MEIER
SUPERVISORY PATENT EXAMINER